

XIV. *Contributions to a knowledge of the Hemipterous Fauna of Madagascar.* By W. L. DISTANT.

[Read June 4th, 1879.]

(Pl. V.)

Two of the first Hemipterous insects described from this large island and peculiarly-interesting zoological province, were *Plataspis Coccinelloides* by Laporte in 1832 and *Ptyelus Gondoti* by Bennett in 1833. Blanchard and Guérin both also added to our knowledge of this Hemipterous fauna; and Coquerel also described several species. It was, however, Dr. Signoret, in the years 1860-61, who first contributed any general knowledge on the subject. In two papers devoted respectively to the *Homoptera* and *Heteroptera* he enumerated most of the known species and described many new forms. These were subsequently nearly all re-described by Dr. Stål in his "Hemiptera Africana," in which work, and also in his later "Enumeratio Hemipterorum," several new species were characterized. Further slight additions to our knowledge have been made by Vollenhoven, Walker and myself. These authors are almost our whole authorities, and though, in the following paper, twelve other species are described, yet all combined will possibly give but a poor summary of the *Hemiptera* of this rich entomological fauna. We must await M. Grandidier's great work for further information.

For these reasons it is futile to attempt any elaborate generalisation as to geographical affinities of the whole Hemipterous fauna, the following merely refers to the insects described in this paper.

One genus, *Ulpus*, is peculiar to Madagascar, according to our present knowledge.

Two genera, *Agonoscelis* and *Mictis*, are also found in the Ethiopian, Oriental and Australian regions.

Three genera, *Mygdonia*, *Enithares** and *Platypleura*, are only found in the Ethiopian and Oriental regions.

* This genus has probably a wider range.

The genus *Piezosternum* is common to the Ethiopian and Neotropical regions, whilst *Pantoleistes* has hitherto been recorded from the Ethiopian only.

Agonoscelis bicolor, n. sp. (Pl. V. fig. 6.)

Head black, with three small reddish spots at base, two situated a little in front of eyes, and one about centre of basal border; lateral lobes longer than the central. Pronotum dull sanguineous, thickly and strongly punctate and irregularly rugulose, with a broad black border, which, commencing at lateral angles, extends about halfway along lateral margin, when it is suddenly reflexed and extends transversely across disc to near centre. Scutellum black, with a small obscure spot at centre of base, and apex broadly dull sanguineous; thickly punctate and strongly, transversely and irregularly rugose. Corium dull sanguineous, with the lateral border, which gradually widens from base and bifurcates at apex, enclosing a triangular space on apical margin; black, thickly punctate and rugulose. Membrane pitchy black, fuscous at tip, which extends considerably beyond apex of abdomen. Body beneath pale reddish, with the following black macular markings; a linear slightly-curved series on each side, commencing one on prosternum, one on mesosternum and one on metasternum, is continued along the abdomen one on each segment—a central row of six, arranged in pairs, on disc of abdomen, a small stigmatal series, and a large marginal subtriangular series arranged one at each segmental incisure. Legs and rostrum black.

The body is sparingly and the legs strongly pilose.

Long. 12 mill.

Antananarivo.

Piezosternum rubens, n. sp. (Pl. V. fig. 8.)

Olivaceous, thickly and finely punctured. Head paler in coloration with the ocelli red; in front of the ocelli are two short black striæ situated on each side of inner margin of the lateral lobes, and a central fuscous longitudinal fascia. Antennæ black, 1st joint robust, olivaceous on inner margin, 2nd about twice as long as 3rd, 4th almost as long as 2nd and 3rd together, luteous at apex, 5th and 2nd subequal. Pronotum with the lateral margin black and a central longitudinal impunctate im-

pression which is also continued through the scutellum to near the apex which is pitchy. Inner claval margin and base, base of costa and a subcostal streak to corium (the last extending through half its length) pitchy. Membrane brassy. Abdomen above red with bluish reflexions, connexivum olivaceous with a broad black fascia at the marginal incisures. Body beneath pale olivaceous, marginal borders of prosternum, mesosternum and metasternum, a central longitudinal line extending through sternal keel to apex of abdomen, segmental borders, stigmata and a stigmatal row of short fasciæ somewhat thickened at each end, black. Rostrum pitchy-olivaceous, reaching a little beyond apex of sternal keel. Legs olivaceous, somewhat pitchy.

Long. 20 to 21 mill. ; exp. pronot. ang. 10 to 11 mill.
Antananarivo.

Allied to the African species. *P. calidum*, Fab.

Abdomen above bluish-green.

Ventral keel about reaching anterior coxæ. *P. calidum*, Fab.

Abdomen above red.

Ventral keel not reaching anterior coxæ. *P. rubens*, Dist.

All the black markings beneath in *P. rubens* are much broader, and the posterior margins of the pronotal angles less excavated than in *P. calidum*.

Mygdonia elongata, n. sp. (Pl. V. figs. 2, 2a, 2b.)

Black. Head clothed with fine yellowish pubescence. Antennæ very dark castaneous, apical joint somewhat paler. First and 4th joints longest, subequal, 2nd longer than 3rd. Pronotum granulose and rugulose, with the lateral angles produced transversely, broadly and subacutely, and two submarginal basal tuberculous points parallel to basal angles of scutellum. Scutellum transversely and irregularly rugulose, with the apex narrowly and obscurely fuscous. Corium thickly and finely punctured, faintly tuberculate. Membrane opaque. Abdomen above body beneath and legs concolorous, tarsi castaneous, 1st joint thickly covered below with yellowish pile.

The body and legs are very faintly pilose. Scutellum with the breadth and length subequal. Body beneath with second segment much the broadest, its apex produced posteriorly and forming anterior half of a large raised tubercle deeply sinuated on disc, which occupies the greater

part of the discal portion of third segment. There is also a faint transverse linear tuberculous ridge on disc of basal margin of the second segment. The posterior femora are gradually thickened, curved at base, unarmed, faintly tuberculous along inner margin, about as long as posterior tibiæ and tarsi together. The posterior tibiæ are dilated on each side, outwardly from base to about half their length, inwardly gradually widening from base and apex to a broad acute tooth about the middle. Intermediate femora slightly dilated beneath near apex with a strong subapical spine. Coxæ gradually widened apart; anterior close together, intermediate much wider apart but less so than posterior.

Long. 28 mill.; exp. pronot. ang. 11 mill.; exp. body at base of cor. 8 mill.

Antananarivo.

I possess one small ♂, measuring only 25 mill., in which the tuberculous ridge on disc of basal margin of second segment is almost obsolete.

This species cannot well be confused with *M. tuberculosa*, Sign., the only other African species to which the genus is now restricted.

♀. Antennæ relatively shorter and brighter castaneous, pronotal angles somewhat less prominently produced, posterior femora very slightly thickened and posterior tibiæ not toothed internally.

Mictis expansa, n. sp. (Pl. V. figs. 1, 1a.)

♂. Above purplish-brown. Head and anterior margin of pronotum pitchy, clothed with ochreous pubescence. Antennæ bright castaneous, apical joint excepting base black. First joint longest, 2nd a little longer than 3rd, 4th and 2nd subequal. Pronotum rugose and granulate, the lateral angles much produced into acute processes, directed somewhat upwards and forwards with the margins faintly crenulated. Anterior lateral angles much more distinctly crenulated. Scutellum transversely and coarsely wrinkled. Clavus much streaked with pitchy, in some specimens concolorous. Corium thickly and finely punctate. Membrane brassy-black. Abdomen above black, with two luteous spots on base of fifth segment. Body beneath concolorous (in other specimens somewhat darker). Coxæ, trochanters, tibiæ and apices of femora somewhat pitchy; tarsi luteous.

The body and legs are faintly clothed with ochreous pile. Abdomen beneath with a large subconical tubercle, situated on apex of first and base of second segment, the second segment much widened posteriorly and extending in a rectangular process nearly across third segment, which is gibbous and slightly and posteriorly produced at apex. The posterior femora are unarmed (with the exception of two small tubercles on inner margin near apex), curved and thickened, about as long as tibiæ and 1st joint of tarsi together. The posterior tibiæ are dilated internally into a broad tooth a little above centre of inner margin. A submarginal, transverse, linear ridge at base of pronotum.

Long. 27 mill.; exp. pronot. ang. 15 mill.

Antananarivo.

♀. Abdomen somewhat dilated on both sides. Abdomen beneath unarmed, but second segment slightly produced and rounded at central basal portion over third segment, which is somewhat hollowed on disc. Hind femora very little thickened, and hind tibiæ only slightly dilated on inner margin.

This species has somewhat a likeness to the forms comprised in the genus *Prionolomia*, Stål, but differs at once from that genus in the relative lengths of the 1st and 4th antennal joints. After a thorough examination, I have placed it in the genus *Mictis*, from all other species of which it is easily differentiated by the expanse of the pronotal angles.

Parabrachytes, nov. gen.

First joint of antennæ a little shorter than 2nd, longer than head; 1st, 3rd and 4th joints subequal; apices of 2nd and 3rd joints incrassated, that of 2nd joint much more strongly so and pectinated; pronotal angles moderately dilated and somewhat rounded; abdomen moderately dilated on each side; femora spined near apices.

This genus could be included in Stål's division *Brachytaria*, by having the 1st joint of the antennæ shorter than the 2nd, and by the rostrum reaching only just beyond anterior coxæ, not to middle of mesosternum, but it differs in having the 1st joint longer than the head, as in Stål's division, *Daladeraria*. It is allied to *Brachytes*, from which it differs by the much greater relative length of the 1st to 2nd joints of antennæ, by the incrassated apices of

the 3rd and 4th joints, the moderately-produced pronotal angles, &c.

Parabrachytes coloratus, n. sp. (Pl. V. fig. 3.)

Head luteous, strongly emarginate between the antenniferous tubercles. Antennæ black, pilose (apical joint less strongly so). First joint with the base strongly, its apex and base of 2nd joint narrowly, luteous; 1st joint a little shorter than 2nd, 3rd rather shorter than 4th, apices of 2nd and 3rd joints incrassated, 2nd more so than 3rd. Pronotum black, thickly and coarsely punctured, the lateral angles slightly prominent and acutely rounded. Scutellum black, transversely rugose, slightly gibbous at base. Corium castaneous, thickly punctured, lateral margins narrowly black. Membrane black. Abdomen above dull reddish, with a toothed internally black margin; connexivum alternately black and luteous. Body beneath black, femora luteous clouded with black, tibiæ black with bases luteous, tarsi pitchy. Rostrum pitchy, extending a little beyond anterior coxæ. Fore and intermediate femora, with two rows of spines, increasing in size on nearing apex; hind femora faintly spined, two or three visible near base, and one long and slender near apex.

♀. Differs from the ♂ in having the basal portion of upper surface of head black, 1st joint of antennæ wholly luteous, apical joint pale fuscous. Abdomen above bright red.

♂. Long. 21 mill.; exp. lat. ang. pronot. $7\frac{1}{2}$ mill. Max. lat. abd. 10 mill.

♀. Long. 22 to 24 mill.

Antananarivo.

Parabrachytes obscurus, n. sp.

Dull ochreous, tinged with fuscous, thickly and strongly punctured. Antennæ with the apical joint black, robust; remainder luteous, apices of 2nd and 3rd and base (narrowly) of 4th joint black. Apex of 2nd joint very strongly incrassated, apex of 3rd slightly so. Pronotum in structure much as in preceding species. Scutellum transversely rugulose, with the base somewhat gibbous; black, basal angles, lateral margins and apex ochreous. Membrane pale brownish, with the base and some discal spots fuscous. Abdomen above red, with a marginal row

of three black spots on each side; connexivum dark castaneous, with two luteous streaks at base and one near apex. Body beneath dull castaneous, stigmata pale luteous. Legs luteous, femora much suffused with black, tibiæ with the base, apex and intermediate spots of the same colour. Rostrum reaching a little beyond base of mesosternum. Femora spined as in preceding species, but hind femora more strongly so.

Long. 18 mill.; exp. pronot. ang. 7 mill. Max. lat. abd. $8\frac{1}{2}$ mill.

Antananarivo.

Pantoleistes grandis, n. sp. (Pl. V. fig. 5, 5a.)

Black, sparingly pilose; apex of head and base of rostrum narrowly,—subcentral portion of 1st joint of antennæ and basal two-thirds of 2nd joint,—central transverse fascia on margin of anterior border of posterior lobe of pronotum,—apices of femora,—bases and apices of tibiæ and posterior lateral borders of dilated first, second and fourth abdominal segments,—luteous. Clavus, basal and apical angles of corium and membrane fuscous.

The 1st joint of the antennæ is a little longer than the head, 2nd more than half the length of the 1st, remainder mutilated. The anterior lobe of the pronotum is deeply bilobed by a longitudinal central incision. The third abdominal segment is the most amply dilated. Hind femora more slender than anterior or intermediate.

Long. 30 mill.

Fianarantsoa.

Ulpus obscurus, n. sp. (Pl. V. fig. 4, 4a.)

Black. Antennæ with 1st joint black, slightly shorter than head and pronotum together, 2nd and 3rd joints luteous, slightly and narrowly black at base. Pronotum with two large subconical tubercles at base of posterior lobe, which are strongly pilose in front; a deep, central broad longitudinal fovea, extending through disc of anterior and posterior lobes. The base of the pronotum and posterior sides of tubercles dull, luteous; lateral angles subprominent. Scutellum black, corium much suffused with luteous; membrane fuscous, paler at base. Dilated portion of abdomen above streaked and shaded with castaneous, and obscurely spotted with same colour beneath. Underside of body, legs and rostrum black.

The colour is shining, but the luteous markings vary in intensity in different specimens. Legs strongly pilose, the hairs arranged in tufts on femora. The dilated lateral borders of the posterior segments of the abdomen are broadly produced upwards.

Long. 19 mill.

Fianarantsoa.

Ulpinus bicolor, n. sp.

Head luteous, with a basal streak behind eyes, and an apical streak in front of antenniferous tubercles, black. Rostrum black, with 1st joint and base of 2nd luteous. Pronotum with the anterior lobe black, posterior luteous, with two large raised tubercles at base. Scutellum black. Corium luteous, with apical angle and membrane fuscous. Dilated portion of abdominal segments above and below castaneous. Abdomen beneath and legs black; coxæ, apices of femora and bases of tibiæ luteous.

Antennæ with 1st and 2nd joints black, remainder fuscous. The pronotum has a deep, broad central longitudinal fovea on disc of anterior and posterior lobes; the lateral angles are slightly prominent. Legs strongly pilose, hairs arranged in tufts on femora. Apex of membrane pale, obscure, hyaline.

Long. 19 mill.

Fianarantsoa.

Ulpinus festivus, n. sp.

Head luteous, post-ocular portion above black. Antennæ black, antenniferous tubercles luteous. Rostrum with basal joint luteous, remainder black. Posterior lobe of pronotum and corium reddish. Membrane, abdomen and legs black; the coxæ, apices of femora and bases of tibiæ are luteous, the mesosternum is also of the same colour. The membrane is bluish-black, with the apex fuscous hyaline.

Long. 16 mill.

Antananarivo.

Closely allied to the preceding, but smaller, the femora much less nodulated, the pronotal tubercles somewhat smaller and more obtuse. The colour of the antennæ, of the dilation of the abdominal segments, and general hue above is different.

Enithares maculata, n. sp. (Pl. V. fig. 7.)

Pale, obscure, luteous, with the following fuscous


macular markings, viz., a median transverse fascia on disc of pronotum, two large somewhat rounded spots at base of scutellum, a small spot on each clavus at apex, and a larger spot on margin of each corium near apex. Membrane obscure creamy-white. Abdomen beneath pitehy, median carina dull luteous. Legs luteous, tibiae outwardly punctured with black.

Long. 14 to 17 mill. Max. lat. $6\frac{1}{2}$ to $7\frac{1}{3}$ mill.

Antananarivo.

The macular markings from an examination of a long series are very constant, but differ in one specimen by having the spot on margin of corium dilated into a triangular patch which quite reaches apex, and in one other specimen all the markings are exceedingly indistinct. It is at once separated from the other Madagascarene species, *E. blandula*, Sign., by the macular markings and its much greater size.

Platypleura Madagascariensis, n. sp. (Pl. V. fig. 9, 9a.)

Head, pronotum, mesonotum, metanotum and tegmina very closely resembling in marking and colour *P. guttulata* of Sign. Wings also somewhat resembling that species, but darker castaneous, with a broad submarginal band and apical third dark fuscous, the last sometimes containing some pale linear streaks; outer margin pale obscure whitish. The face is greenish-ochreous, broad, deeply and transversely sulcated, with a black, central longitudinal impression widened in the middle to a deep fovea. Abdomen above black, discs of first, second, and third segments with fulvous -shaped markings. Prosternum and mesosternum greenish-ochreous, with the submarginal borders and some central markings black. Metasternum black, with the basal margin pale luteous. Drums greenish-ochreous, broadly margined with black. Abdomen beneath greenish-ochreous, with the lateral and transverse segmental margins black. Legs pale castaneous, bases of tibiae and undersides of fore femora black. Rostrum greenish-ochreous, apical joint fuscous, almost reaching first abdominal segment.

♂. Long. 28 mill. ; exp. tegm. 92 mill.

Tamatave.

This species, though in general appearance and coloration closely allied to *P. guttulata* of Sign., is yet easily

separable and structurally very distinct. Besides its larger and more robust form the following are the *differentia specifica*.

Abdomen above fulvous.

Drums slightly overlapping and unicolorous.

Rostrum reaching posterior coxæ. *P. guttulata*, Sign. ♂.

Abdomen above black.

Drums not overlapping and margined with black.

Rostrum about reaching first abdominal segment. *P. Madagascariensis*, Dist.